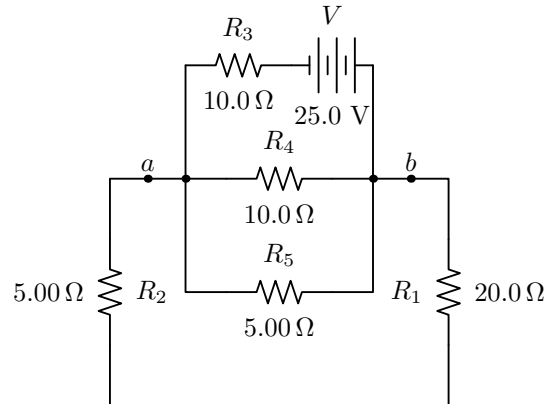


Homework 5

Chapter 21

Problem 25. A battery has an emf of $\epsilon = 15.0 \text{ V}$. The terminal voltage of the battery is $V_t = 11.6 \text{ V}$ when it is delivering $P = 20.0 \text{ W}$ of power to an external load resistor R . (a) What is the value of R ? (b) What is the internal resistance r of the battery?

Problem 29. Consider the circuit shown in Figure P21.29. Find (a) the current in the $R_1 = 20\Omega$ resistor and (b) the potential difference between points a and b .



Problem 31. Calculate the power delivered to each resistor in the circuit shown in Figure P21.31.

